



FINANCIAL STRUCTURE REFORM AND ENTERPRISE DEBT RISK PREVENTION



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ABSTRACT

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Based on the financial structure database (FSD) and the global listed enterprises database (Osiris), this paper investigates the relationship between financial structural reform and corporate debt risk by using the two-way fixed effect model. Research results show that for every 1% increase in the degree of financial development, the corporate leverage ratio will decline by about 0.4%. We have studied the heterogeneity of the relationship. The empirical results show that for enterprises with weaker associations with the government, the improvement of financial development is more conducive to reducing the leverage ratio of enterprises. For countries with higher household savings rate, higher GDP growth rate or higher M2 growth rate, enhancing financial development to guard against corporate debt risk would be less effective. For countries with higher information disclosure requirement or stricter market supervision, promoting financial development can reduce corporate leverage ratio more effectively. To prevent the risk of corporate debt, the government needs to restructure the financial structure, improve the transparency of listed company information, strengthen market supervision and improve the level of financial marketization.

Contribution/ Originality: This study is one of very few studies which have investigated the heterogeneous relationship between financial structure reform and corporate debt risk.

1. INTRODUCTION

In recent years, China's economic growth has slowed markedly. The GDP growth rate fell below 8% in 2012 and then below 7% in 2015. In the same period, the leverage ratio of Chinese non-financial companies jumped from 96% to 144%, which is much higher than the US' 72.8%, Japan's 94.2%, and South Korea's 103.7%. This triggered international concern about China's debt crisis. Moody and other international rating agencies downgraded China's sovereign debt rating in 2013. In 2015, the International Monetary Fund also pointed out that driven by various factors in the world, corporate debt levels in emerging market countries have tripled in ten years, and emerging market countries must be prepared for the next possible debt crisis.

In order to prevent possible debt crisis and even systemic financial crisis, in November 2015, China's Central Financial and Economic Leadership Group put forward some new proposals such as adapting to the new normal of economic development and promoting the supply-side structural reform for the first time. One of the core initiatives of the supply-side structural reform was to de-leverage, which is to reduce the debt levels of the household, government, and especially the non-financial sector.

In the financing system of Chinese enterprises, bank credit is the most important financing method. This single financial structure not only limits the development of enterprises, but also increases the debt risk of enterprises. In 2017, the Chinese government report stated that the debt risk of Chinese non-financial companies was too high, thanks to China's financial structure dominated by bank credit. Therefore, to reduce corporate debt risk, it was necessary to restructure the financial structure and develop multi-level capital markets.

In 2018, the State Council of China issued the regulation, "Key Points for Reducing Enterprise Leverage Ratio in 2018", putting forward many measures to prevent corporate debt risks, such as establishing the asset-liability constraint mechanism for state-owned enterprises, restricting excessive debt financing of high-debt enterprises, broadening corporate financing channels, and actively developing equity financing. Many scholars believe that the direction for China's financial structural reform should be to establish a hierarchical and diversified financial market, improving the level of financial marketization and meeting the various financing needs of enterprises. Some scholars have found that China's debt risk is mainly concentrated in large state-owned enterprises and zombie enterprises with excess production and low profitability (Zhong *et al.*, 2016; Tan *et al.*, 2019).

In order to study the role of financial structural reform in preventing corporate debt risk, this study first proposed an indicator for measuring financial structure based on the financial structure database, which is the degree of financial development. Then the corporate leverage ratio was calculated based on the global database of listed companies to measure corporate debt risk. Finally, the two-way fixed effect model was used to examine whether the financial structural reform can reduce the corporate debt risk. The marginal contribution of this paper lies in the following two points: first, the individual characteristics of the enterprise will affect the role of financial structural reform in reducing corporate debt risk (for example, financial structural reform plays a greater role in reducing the leverage ratio of private enterprises than state-owned enterprises), and second, macro level factors also affect the role of financial structural reform in reducing corporate debt risk (for example, the influence of financial structure reform in countries with unsound legal norms is smaller than that in countries with sound legal norms).

2. LITERATURE REVIEW

Equity financing and bond financing are the main ways for enterprises to obtain funds. According to Levine (2002), the financial structure measures the development of the stock market relative to the bank sector, so the reform of the financial structure is to optimize the structure of enterprise financing. With regard to the reform of financial structure, scholars usually compare the financial structure dominated by banks with the financial structure dominated by markets.

Kester (1986) compared the financial structure of the United States with Japan's financial structure, finding that the US financial structure is market-oriented while Japan's financial structure is bank-led, and that the leverage ratio of Japanese companies is significantly higher than that of the United States. Based on the panel data of more than 2,000 non-financial listed companies in China, Chen and Xiong (2017) found that the bank-led financial structure will make it easier for bank credit to become the main method for non-financial companies to obtain funds, and that this kind of debtor-creditor relationship increases the debt risk of some companies. Based on a panel data of global listed companies, Tan *et al.* (2019) found that if the financial structure of a country or region is dominated by banks, the corporate leverage ratio is relatively higher, however if the financial structure of a country or region is dominated by markets, the leverage ratio of enterprises is relatively lower. China's financial structure is a typically bank-led financial structure. Although it promotes social and economic development, it also intensified corporate debt risk.

We can often find that even though two countries have similar financial structure, the corporate leverage ratios of these two countries are very different, or even if there are two very similar companies, their leverage ratios often vary greatly. The heterogeneous relation between financial structure and corporate leverage ratio has attracted wide attention from scholars. Bancel and Mittoo (2004) believe that corporate debt levels are not only affected by

the company's own factors, but also by macro factors. In a study covering ten developing countries, Booth *et al.* (2001) found that corporate financing structures are affected by macro factors such as GDP growth rate and the level of financial market development. On this basis, De Jong *et al.* (2008) believe that macro factors affect the debt level of enterprises through direct effect and indirect effect. The so-called direct effect means that developed stock market can provide more convenient conditions for corporate equity financing, which will directly reduce enterprise leverage ratio, while the developed bond market helps companies issue bonds, which will directly increase the leverage ratio of enterprises; the so-called indirect effect means that macro factors affect the leverage ratio of enterprises by affecting enterprise characteristics.

Some scholars have found that institutional environment and international interaction have an impact on the choice of corporate financing strategies and the behavior of business managers (Brounen *et al.*, 2006). Through an analysis of thirty OECD countries, Song and Philippatos (2004) found that the difference in corporate leverage ratio between different countries was influenced by corporate, industrial, and national characteristics. Based on the panel data from non-financial companies in 42 countries, De Jong *et al.* (2008) incorporated the company's own characteristics and national characteristics into models such as firm size, firm growth rate, corporate profitability, regulatory levels, rights protection, and stock market development levels. Empirical results showed that corporate leverage ratio is indeed affected by individual characteristics of the enterprise as well as national characteristics, and that the effects of these factors are different for different countries. On the basis of prior relevant research results, this paper makes full use of the financial structure database and global listed company database to create an indicator of financial structure, introduce the related interference factors from the enterprise level, industry level and national level, and further examine the heterogeneity of the relation between financial structure and corporate debt risk.

3. DATA DESCRIPTION AND MODEL DESIGN

3.1. Data Source

In order to analyze the impact of financial structural reform on the debt risk of non-financial enterprises, this paper selected the financial structure database (FSD) and the global listed enterprise database (Osiris). The FSD database collects 109 financial development indicators from 214 countries or regions around the world, which can be used to construct financial structure indicators. The Osiris database provides financial data about more than 80,000 listed companies in 155 countries, including indicators such as corporate leverage ratio, firm size, shareholding structure, return on assets and so on. This study merged the financial development indicators of each country in the FSD database into the Osiris database. The study used the following data processing: first, the observations of financial enterprises were excluded; second, the observations of listed companies with a duration of less than 4 years were excluded; and third, only countries or regions with at least 40 listed enterprises were retained as research sample. In the end, the study had a panel data of 33,878 listed companies in 47 countries or regions from 2001 to 2015, including a total of 331,009 observations.

3.2. Variable Selection and Data Description

Enterprise leverage ratio (*leverate*) refers to the ratio of corporate debt to total assets. It is an important indicator to measure corporate debt risk. This study used this indicator as an explained variable. However, there is no direct indicator for financial structure as an explanatory variable.

According to Levine (2002)'s method of constructing financial structure indicators, the FSD database was used to construct the financial structure scale index (*strusize*), the financial structure activity index (*struactiv*) and the financial structure efficiency index (*strueffe*). Then we used the principal component analysis method to obtain the first principal component, which is the degree of financial development (*findex*), as an indicator to measure the

financial structure of a country or region. The larger the value, the higher the degree of financial development in the country or region.

The financial structure scale indicator refers to the logarithm of the total market value of a stock market in a country or region relative to the total bank credit. The larger the value, the higher the share of stock market of the country or region. The financial structure activity index refers to the logarithm of the total transaction volume of the stock market relative to the total bank credit. The larger the value, the higher the activity of stock market of the country or region. The financial structure efficiency index refers to the ratio of the total transaction volume of a country's stock market to its GDP multiplied by the net interest margin of the banking sector. The larger the value, the higher the degree of financial marketization of the country or region.

In order to describe the relationship between the degree of financial development and the leverage ratio of enterprises more accurately, this study used the control variables from the enterprise, industry and national level. The control variables selected at the enterprise level include: enterprise size (*entersize*), return on assets (*roa*), fixed asset investment ratio (fixed rate), the degree of enterprise equity concentration (*entercentr*), and the degree of association between enterprise and government (*govehigh*), among which the degree of association between enterprise and government is a dummy variable. The control variables selected at the industry level include: industry category (*industry*) and industry R&D investment (*indRD*); the control variables selected at the national level include GDP growth rate (*GDPgrow*), M2 growth rate (*M2grow*), the fiscal deficit rate (*fiscaldef*), investment contribution rate (*invecont*), the degree of information disclosure (*infodisc*), legal norms (*rulelaw*), and regulatory level (*reguqual*), among which the degree of information disclosure is a dummy variable. The statistical results of the main variables in this study are shown in Table 1.

Table-1. Descriptive Statistics of Main Variables.

Variable	Obs	Mean	Std.Dev.	Min	Max
leverate	331,009	0.539	0.264	0.064	1.652
findev	331,009	3.535	1.833	-8.048	7.565
entersize	331,009	7.389	2.940	1.407	14.909
roa	331,009	0.037	0.155	-0.823	0.364
fixedrate	331,009	0.500	0.237	0.031	0.971
entercentr	320,104	4.341	3.342	1.000	9.000
govehigh	239,126	0.500	0.500	0.000	1.000
industry	331,009	29.314	13.576	10.000	60.000
indRD	324,230	0.286	0.943	0.000	7.759
GDPgrow	331,009	0.035	0.034	-0.109	0.255
M2grow	330,895	0.088	0.069	-0.214	1.200
fiscaldef	330,837	-0.029	0.036	-0.321	0.298
saverate	331,009	0.260	0.112	0.052	0.528
invecont	331,009	0.011	0.019	-0.145	0.136
infodisc	331,009	0.762	0.426	0.000	1.000
rulelaw	315,581	0.930	0.869	-1.427	2.100
reguqual	315,581	0.900	0.797	-1.352	2.261

Note: data from financial structure database (FSD) and global listed enterprises database (Osiris).

3.3. Model Design

Consistent with the previous literature on corporate leverage ratio (Tan *et al.*, 2019) the non-financial enterprise leverage ratio was used as an indicator to measure corporate debt risk, and the degree of financial development was used as an indicator to measure the financial structure of a country or region. Thus, the following model was established:

$$\text{leverate}_{it} = \beta_0 + \beta_1 \text{findev}_{it} + \beta_2 \text{industry}_{it} + \beta_3 \text{country}_{it} + \beta_4 \text{findev}_{it} * \text{firm}_{it} + \beta_5 \text{findev}_{it} * \text{industry}_{it} + \beta_6 \text{findev}_{it} * \text{country}_{it} + \mu_i + \nu_t + \varepsilon_{it}$$

In the above model, *leverate* is the explained variable used to measure the debt risk of non-financial enterprises, which indicates the corporate leverage ratio. The subscripts *i* and *t* represent the enterprise and time respectively. *findev* is the explanatory variable measuring the financial structure of a country or region, which indicates the degree of financial development. *Firm*, *industry*, and *country* are control variables used to control interference factors at the enterprise, industry, and national level, including firm size, return on assets, industry R&D investment, GDP Growth rate, M2 growth rate and so on. The interaction terms between *finstruct* and firm, industry and country were used to examine the heterogeneity of the relation between financial development and corporate leverage ratio, because for different countries, industries and enterprises, the financial structural reform will have different effect on corporate debt risk. μ means individual fixed effect, ν means time fixed effect, ε means random interference term.

4. EMPIRICAL RESULTS

4.1. Benchmark Regression Result

In order to examine whether financial structural reform can reduce corporate debt risk and how important the reform of financial structure is to prevent corporate debt risk, this study used the pooled regression model, the fixed effect model and random effect model to test the relationship between the degree of financial development and non-financial companies leverage ratio respectively, and the regression results are shown in Table 2.

In column (1), the pooled regression model is adopted. When the interference factors at the firm-, industry- and country-level are controlled, the regression results show that the degree of financial development has a significantly negative correlation with the corporate leverage ratio. For every one percentage point increase in the degree of financial development, the corporate leverage ratio will decrease by 0.27 percentage points.

Column (2) adopts the random effect model. In addition to controlling the interference factors of the three levels, the individual factors and the time factors are controlled, and the regression results were basically consistent with the pooled model regression results. Column (3), (4) and (5) all adopt the fixed-effect model, which was also the model adopted in other parts of this study. This is because under the assumption that the pooled regression model is superior to the fixed-effect model, the p value of the F test was 0.0000, which strongly rejects the null hypothesis. In addition, the p value of Hausman test is also 0.0000, strongly rejecting the null hypothesis that random effect model should be selected relative to the fixed effect model. Column (3) controls the interference factors at the enterprise level. Column (4) controls the interference factors at the enterprise and industry level, and column (5) further controls the interference factors at the firm, industry and national level. Although the control variables were different, these three columns all show that the degree of financial development has a significantly negative correlation with the leverage ratio of enterprises, and the coefficient of financial development degree is higher than that in the former two columns.

Table-2. Regression Results of Benchmark Model.

	(1)	(2)	(3)	(4)	(5)
Variables	leverate	Leverate	leverate	leverate	leverate
findev	-0.00274*** (0.000355)	-0.00270*** (0.000410)	-0.00418*** (0.000414)	-0.00413*** (0.000419)	-0.00473*** (0.000453)
Constant	0.583*** (0.00573)	0.468*** (0.00922)	0.549*** (0.00501)	0.551*** (0.00505)	0.502*** (0.00773)
Firm	YES	YES	YES	YES	YES
Industry	YES	YES	NO	YES	YES
Nation	YES	YES	NO	NO	YES
Fix_effect	NO	YES	YES	YES	YES
Time_effect	NO	YES	YES	YES	YES
Observations	224,341	224,341	238,119	232,901	224,341
R-squared	0.109	0.068	0.062	0.061	0.068

Notes: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1; Firm represents the control variables at the enterprise level; Industry represents the control variables at the industry level; Nation represents the control variables at the national level; Fix_effect represents the individual fixed effect; Time_effect represents the time fixed effect. YES means controlling corresponding variable, NO means the opposite.

The results of all the models in Table 2 show that the coefficient of the degree of financial development is significant at a significant level of 1%. The latter three columns depict the relation between the degree of financial development and corporate leverage ratio more accurately. For every 1 percentage point increase in the degree of financial development, the leverage ratio of enterprises will fall by about 0.4 percentage points. Although this coefficient does not seem to be large, once considering that the average of corporate leverage ratios is only 0.539 and the variance is only 0.264, the economic implications of improving financial development cannot be ignored.

4.2. Heterogeneity of the Relationship between Financial Structure and Corporate Debt Risk

In the above models, the regression results only reveal the overall relationship between the degree of financial development and corporate leverage ratio, however, they don't reveal the heterogeneous relationship between them. For different types of enterprises or companies in different countries, the impact of financial structural reform on corporate debt risk may vary widely. Investigating the heterogeneous relationship can provide more valuable references for restructuring the financial structure.

The data in column (1) of Table 3, examines whether improving the degree of financial development has a different impact on the leverage ratio of enterprises when enterprises have different levels of association with the government. The results show that the coefficient of the degree of financial development and the coefficient of the interaction term (*fin_gov*) were both significant at the 1% significant level, but the coefficients of the two have opposite signs and the coefficient sign of the interaction term is positive. This shows that the impact of financial structural reform on corporate debt risk will be affected by the degree of association between enterprises and the government. When the degree of association is increased by one unit, the coefficient of the degree of financial development will decline by about 0.487 percentage points.

Column (2) data examines whether the improvement of financial development has an unequal influence on the corporate leverage ratio in countries with different household savings rates. The results show that the coefficient of the degree of financial development and the coefficient of the interaction term (*fin_sav*) were both significant at the 1% significance level, but the coefficients of the two have opposite signs and the coefficient sign of the interaction term is positive. This indicates that in countries or regions with higher savings rates, the effect of restructuring the financial structure to prevent corporate debt risk is weakening.

Data in column (3) examines whether the enhancement of financial development has a distinct influence on the corporate leverage ratio in countries with different information disclosure requirements. The results show that the coefficient of the degree of financial development and the coefficient of the interaction term (*fin_inf*) were both significant at the 5% significance level, and the coefficient signs of the both are negative. This indicates that for countries or regions with a higher requirement of information disclosure, restructuring the financial structure contributes to guarding against corporate debt risk.

Column (4) data examines whether the improvement of financial development has a different influence on the corporate leverage ratio in countries with different M2 growth rates. The results show that the coefficient of the degree of financial development and the coefficient of interaction term (*fin_m2*) were both significant at the 1% significance level, but the coefficients of the two have opposite signs and the coefficient sign of the interaction term is positive. This shows that for countries or regions with higher growth rates of M2, restructuring the financial structure cannot prevent corporate debt risks more effectively.

Column (5) data examines whether the degree of financial development has a different influence on the corporate leverage ratio in countries with different GDP growth rates. The results show that the coefficient of the degree of financial development and the coefficient of the interaction term (*fin_gdp*) were both significant at the 1% significance level, but the coefficient signs of the two are opposite and the coefficient sign of the interaction term is positive. This shows that for countries or regions with higher GDP growth rates, restructuring the financial structure cannot prevent corporate debt risk more effectively.

Column (6) data examines whether the degree of financial development has a different influence on the corporate leverage ratio in countries with distinct regulatory qualities. The results show that the coefficient of the degree of financial development and the coefficient of the interaction term (*fin_reg*) are both significant at the 1% significance level, and the coefficient signs of both are negative. This shows that for countries or regions with better regulatory quality, restructuring the financial structure can prevent corporate debt risk more effectively.

The effect of reforming the financial structure varies widely in different situations. For enterprises with weaker association with the government, increasing the degree of financial development is more conducive to reducing the leverage ratio of enterprises. However, for countries with higher household savings rates, faster GDP growth rates, or higher M2 growth rates, improving the degree of financial development cannot reduce the corporate leverage ratio more effectively. For countries with higher information disclosure requirements or stricter market supervision, increasing the degree of financial development can reduce the corporate leverage ratio more effectively.

Table-3. Heterogeneity Analysis Results.

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	leverage	leverage	leverage	leverage	leverage	leverage
findev	-0.00661*** (0.000868)	-0.00980*** (0.00176)	-0.00244** (0.00109)	-0.00756*** (0.00102)	-0.00755*** (0.000893)	-0.00463*** (0.000693)
fin_gov	0.00487*** (0.00119)					
fin_sav		0.0170*** (0.00519)				
fin_inf			-0.00380*** (0.00130)			
fin_m2				0.0215*** (0.00561)		
fin_gdp					0.0546*** (0.0107)	
fin_reg						-0.00235*** (0.000723)
Constant	0.501*** (0.0189)	0.524*** (0.0203)	0.515*** (0.0191)	0.514*** (0.0193)	0.516*** (0.0191)	0.509*** (0.0189)
Firm	YES	YES	YES	YES	YES	YES
Industry	YES	YES	YES	YES	YES	YES
Nation	YES	YES	YES	YES	YES	YES
Cluster	YES	YES	YES	YES	YES	YES
Fix_effect	YES	YES	YES	YES	YES	YES
Time_effect	YES	YES	YES	YES	YES	YES
Observations	224,341	224,341	224,341	224,341	224,341	224,341
R-squared	0.068	0.068	0.068	0.068	0.068	0.068

Notes: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1; Firm represents the control variables at the enterprise level; Industry represents the control variables at the industry level; Nation represents the control variables at the national level; Cluster represents clustering standard error at the firm level. Fix_effect represents the individual fixed effect; Time_effect represents the time fixed effect. YES means controlling the corresponding variables; NO means the opposite.

5. ROBUSTNESS

5.1. Replace the Explained Variable with Short-term and Long-term Debt Ratio

The short-term debt ratio (*shortlever*) refers to the ratio of the debt to the total assets that the enterprise will repay within one year. The long-term debt ratio (*longlever*) refers to the ratio of the debt to the total assets with a repayment period of more than one year. They both are important indicators of corporate debt risk.

Column (1) in Table 4 replaced the ratio of corporate leverage with the company's short-term debt ratio. The results show that the coefficient of the degree of financial development was significant at the 1% significance level. Column (2) replaced the corporate leverage ratio with the company's long-term debt ratio. The results also show that the coefficient of the degree of financial development was significant at the 1% significance level. These results

indicate that the relationship between the degree of financial development and corporate leverage ratio is robust. However, the results show that the two coefficients have opposite signs.

In other words, although the improvement of financial development can reduce the short-term debt ratio, it cannot reduce the long-term debt ratio. This is because the interest rate of short-term liabilities is very unstable and companies often face the risk of not being able to repay on time, which makes enterprises use other financing methods to alleviate this situation. Therefore, restructuring the financial structure can reduce the short-term debt risk of enterprises. However, the interest cost of long-term liabilities is relatively stable and the repayment period is relatively long, which is conducive to debt financing.

Table-4. Results of Robustness Test.

	(1)	(2)	(3)	(4)	(5)	(6)
Variables	shortlever	longlever	leverate	leverate	leverate	leverate
findev	-0.00739*** (0.000562)	0.00263*** (0.000478)		-0.00473*** (0.000693)	-0.00473*** (0.00108)	-0.00473** (0.00178)
L.findev			-0.00427*** (0.000767)			
Constant	0.652*** (0.0141)	-0.184*** (0.0126)	0.498*** (0.0231)	0.502*** (0.0189)	0.502*** (0.0660)	0.502*** (0.102)
Firm	YES	YES	YES	YES	YES	YES
Industry	YES	YES	YES	YES	YES	YES
Nation	YES	YES	YES	YES	YES	YES
Cluster	FIRM	FIRM	FIRM	FIRM	INDU	COUN
Fix_effect	YES	YES	YES	YES	YES	YES
Time_effect	YES	YES	YES	YES	YES	YES
Observations	224,245	224,245	203,486	224,341	224,341	224,341
R-squared	0.070	0.074	0.070	0.068	0.068	0.068

Notes: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1; Firm represents the control variables at the enterprise level; Industry represents the control variables at the industry level; Nation represents the control variables at the national level; Cluster represents clustering standard error at the firm-, industry- or country-level. Fix_effect represents the individual fixed effect; Time_effect represents the time fixed effect. YES means controlling the corresponding variables; NO means the opposite.

5.2. Replace Explanatory Variables with the First-Order Lag Term in the Degree of Financial Development

The degree of financial development of a country or region may be affected by different factors such as the level of economic development, legal norms, and national policies. Although some variables have been controlled, such as the GDP growth rate, legal norms, and the association between enterprises and government, there are still some variables missing, which can lead to endogenous problems.

In order to ensure the robustness of the conclusion, this study selected the first-order lag term of the degree of financial development as the instrumental variable. The results in column (3) of Table 4 show that the first-order lag term has a significant impact on the enterprise leverage ratio at the significance level of 1%, which proved the robustness of the conclusions.

5.3. Cluster Analysis at Different Levels

For the same company, there could be serial correlation. If the serial correlation was ignored, the standard error of the coefficients of the explanatory variables would be unreliable. We used a fixed-effect model and conducted cluster analysis at the enterprise level which is shown in column (4) of Table 4. The results show that the coefficient of the degree of financial development is significant at the 1% significance level.

There will also be serial correlation between different companies in the same industry. Cluster analysis was conducted at the industry level and the results are shown in column (5). The results also show that the coefficient of the degree of financial development is significant at the 1% significance level.

Different companies in the same country will also have serial correlation. Results of cluster analysis conducted at the national level are shown in column (6). The results show that the coefficient of the degree of financial

development is significant at the 5% significance level. Comparing the results of these three columns, we found that the use of different clustering standard errors does not affect the basic conclusions.

6. CONCLUSION

Based on the panel data of global listed companies, this study used the two-way fixed-effect model to study the relationship between financial structural reform and non-financial corporate debt risk. The empirical results showed that financial development has a significantly negative correlation with corporate leverage ratio, which indicated that financial structural reform can help reduce corporate debt risk. The empirical results also show that the role of financial structural reform in preventing corporate debt risk will be affected by many other factors, which reflects the heterogeneity of the relationship between them. At the micro level, the relationship will be affected by the degree of association between enterprises and the government. The higher the degree of association between enterprises and the government, the smaller the role of financial structural reform in preventing corporate debt risk. This is mainly because it is easier for companies with state support to get loans than those without it.

At the macro level, the role of the financial structural reform in preventing corporate debt risk is different in different countries, which is mainly because the socio-economic conditions of each country are so different. For countries with higher savings rates, interest rates are relatively lower and companies are more willing to make debt financing. In this case, the effect of increasing the degree of financial development to reduce corporate leverage ratio will be diminished.

The same is true for countries with higher M2 growth rates. Increasing the degree of financial development will not cause the company's leverage ratio to drop a lot. For countries with faster GDP growth rates, this development situation will encourage entrepreneurs' confidence in the future and increase their desire to debt financing. For countries with higher requirement of information disclosure or higher quality of supervision, it is difficult for companies to conceal their own debt risk, which makes them attempt to obtain funds through multiple channels. In this case, improving the degree of financial development can solve the problem of the single mode financing structure of enterprises, thereby reducing the risk of corporate debt.

Restructuring the financial structure can prevent non-financial corporate debt risk, but this effect will be affected by micro and macro factors. For China, in addition to continuing to promote financial structural reform, the Chinese government also needs to improve the transparency of listed company information and strengthen the construction of laws and regulations in financial markets.

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